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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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DATE MAILED: 08/27/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No.	Applicant(s)
	10/022,947	KY, DUNG H.
	Examiner	Art Unit
	V. Paul Harper	2654

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 25 July 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b])

- a) The period for reply expires 3 months from the mailing date of the final rejection.
- b) The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. The proposed amendment(s) will not be entered because:
 - (a) they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) they raise the issue of new matter (see Note below);
 - (c) they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____.

3. Applicant's reply has overcome the following rejection(s): _____.
4. Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. The a) affidavit, b) exhibit, or c) request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attached discussion.
6. The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. For purposes of Appeal, the proposed amendment(s) a) will not be entered or b) will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: _____.

Claim(s) withdrawn from consideration: _____.

8. The proposed drawing correction filed on _____ is a) approved or b) disapproved by the Examiner.

9. Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). 6 3 ID

10. Other: _____.

Vijay Chawan 8/25/03
VIJAY CHAWAN
PRIMARY EXAMINER

ECH

DETAILED ADVISORY ACTION

Information Disclosure Statement

1. The Examiner has considered the references listed in the Information Disclosure Statements dated 3/5/03 and 6/24/03. Copies of the Information Disclosure Statements are attached to this office action.
2. Applicant's arguments filed 7/25/03 have been fully considered but they are not persuasive.
3. Applicant asserts on page 2:
.... Further, Hutchins teaches a rudimentary system that can only recognize a small set of commands for an aircraft cockpit application (col. 3, lines 4-8). *Hutchins does not recognize continuous speech but rather discrete commands.* A closer look at Hutchins in view of claim 23 will yield the conclusion that Hutchins does not anticipate claim 23. (Italics added)

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., *continuous speech*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, Hutchins **does** recognize continuous speech as indicated in her discussion of output rate (col. 12, line 22).

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4. Applicant further asserts on page 2:

The Examiner attempts to frame Hutchins in the language of claim 23: "Hutchins' method includes the following steps: the digitizing of an audio input ...and then after passing the digitized data through an 'acoustics to subsyllables' unit generating a stream of binary data ...where the ASCII data indicated is inherently a binary representation of characters..." (citations omitted; emphasis added). Applicant respectfully disagrees with this characterization of Hutchins.

Figure 4A of Hutchins indicates a speech input **14** followed by a sequence of steps leading to an ASCII spelling of words **28**, where the definition of the ASCII is "a coding scheme using 7 or 8 bits to represent characters" (Microsoft Computer Dictionary) (i.e., ACSII data is a binary representation of characters).

5. Applicant asserts on page 3:

Claim 23 performs the steps of "*receiving a digital data representation of speech comprising a stream of binary bits; grouping sets of the binary bits and mapping each set to a representation of a letter.*" This transformative step going from a digital representation of the speech (in other words, a digital representation of the sounds) to letters forming words is not taught or suggested in Hutchins. As stated in Hutchins col. 5, lines 42-44 and 48-50, the output of acoustics to subsyllables module 16 is output frames of "SubSyllable symbols that characterizes major and minor phonetic attributes of the segment." The "frames" are designated by "silence, frication, stable vowel, and change." FIGURE 9 of Hutchins is a table that provides the phonemes in the output frames. These phonemes are phonetically-based such as "tS" for the "CH" sound, "dZ" for the "Dge" sound, and "u" for the "OO" sound. Further examples shown in FIGURE 9 include "Z" for the S sound in "measure," "Q" for the TH sound in "thin," "&" for the U sound in "but," etc. Although this output is indicated as "ASCII spelling of subsyllables" in FIGURE 4A, it is clear that this "ASCII spelling" is of phonemes listed in FIGURE 9. As we know, phonemes are not the same as letters or characters that form the words. (Italics added)

Again as shown in Figure 4A, a speech signal is input 14 with a necessary conversion to binary followed by a sequence of steps leading to an ASCII representation of the input. Since ASCII is a representation of characters (i.e. letters), this conversion to ASCII is a conversion to letters.

6. Applicant asserts on page 3:

Further, Hutchins clearly describes a process of going from subsyllables to syllables and then syllables to words (Col. 11, lines 25-42). Claim 23, to the contrary, maps digital binary bits directly to letters that form the words themselves. The binary bit-to-letters mapping described in claim 23 does not operate on the basis of syllables. Applicant strongly objects to the Examiner's wholesale recasting of Hutchins in the framework set forth in claim 23. Claim 23 refers to syllables only in the context of "determining the number of syllables in the digital data representation of the speech for a corresponding word." *The noted number of syllables is used for "searching a library containing a plurality of words according to the representations of letters and the number of syllables of each word, and providing a matched word in response thereto."* Hutchins clearly lacks this limitation as *Hutchins does not use the number of syllables in this manner or any manner.* . . . (Italics added)

Hutchins describes a process where sequences of SubSyllables are matched with Syllables (by finding corresponding sequences in a tables), and where sequences of syllables are matched with words in lists (col. 3, lines 25-34, col. 9, lines 49-64, and col. 11 through 12, § "Syllables to Words" and § "Word Grammar (Words to Phrases)") where matching a sequence of syllables will necessarily require the matching of the *number of elements in the sequence.*

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.... If the Examiner will read Hutchins col. 11, lines 25-42, he will see that the syllable-to-word mapping step of Hutchins makes one or more passes through the syllables and attempts to join adjacent syllables together to see if they form known words. This is contrary to the claimed invention.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., number of passes during the matching process) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

7. Applicant asserts on page 4:

Claim 23 also teaches, "*grouping the representations of letters into words, the words being separated by a character representation of pause in the speech.*" Hutchins clearly does not show or suggest this step. To the contrary, Hutchins "evaluates all combinations of incoming options against a predetermined database 22 of SubSyllable spellings ...The matching process carried out by module 20 accesses a grammar process 24 and a stored table of non-terminals 26Matches that produces a complete word or syllable are output to the next stage." (Col. 9, lines 52-64). This process is discussed further in Col. 11, lines 26-42. The Examiner attempted to fill this void by stating that "words are inherently separated by a space associated with a pause in speech." However, Hutchins does not explicitly or implicitly address this. Instead, Hutchins relies on the use of a database that attempts to piece together syllables to see if they form recognizable words. *Hutchins gave the example of forming the word "FOURTEEN" formed out of two adjacent syllables, "FOUR" and "TEEN."* Such methodology does not use pauses in the speech to delineate words. (Italics added)

In the example referred to by the Applicant, the word FOURTEEN does not have a pause in the middle, and thus would not display a character representing a pause. Moreover, Hutchins' invention does correspond to the claim language in that representations of letters (ASCII characters) are grouped into words, and the words are grouped into phrases where a phrase is a sequence of words separated by spaces and the spaces represent pauses between words.

8. Applicant asserts on page 5:

The same arguments set forth above with regard to claim 23 are also applicable to the rejection of claim 34 over Hutchins. ...

The arguments in this paragraph were address above in ¶'s 3-8.

9. Applicant asserts on page 5:

Claim 24 was rejected under 35 U.S.C. § 103(a) over Hutchins and McNamara. This rejection is respectfully traversed. Claim 24 depends from independent claim 23, which as established above, is patentable over Hutchins. There is also no teaching to combine Hutchins and McNamara. Therefore claim 24, which adds the limitation of "grouping sets of eight binary bits," is also patentable over Hutchins even in view of McNamara.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the

references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case (and for claim 35), it was argued that an eight bit representation is a standard for ASCII characters.

10. Applicant asserts on page 6:

Claim 26 was also rejected under 35 U.S.C. § 103(a) over Hutchins and McNamara. This rejection is respectfully traversed. Claim 26 depends from independent claim 23, which as established above, is patentable over Hutchins. There is also no teaching to combine Hutchins and McNamara. Therefore claim 26, which adds the limitation of "querying a table comprising binary bit sets and their respective character representation of speech," is not obvious in view of Hutchins and McNamara and is therefore patentable.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case (and for claim 36), using a table to map bits to a character representation is standard practice.

11. Applicant asserts on page 6:

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The Examiner also rejected claim 27 under 35 U.S.C. § 103(a) over Hutchins and Gould. This rejection is respectfully traversed. Claim 27 depends from independent claim 23, which as established above, is patentable over Hutchins. There is also no teaching to combine Hutchins and Gould. Therefore claim 27, which adds the limitation of "receiving the binary bit stream from a sound card," is also not obvious in view of Hutchins and Gould and is therefore patentable.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Hutchins uses a digitizer **14** and Gould was introduced to show how a sound card could be used to implement that function.

12. Applicant asserts on page 7:

Claims 30-33 were also rejected under 35 U.S.C. § 103(a) over Hutchins and Gould. This rejection is respectfully traversed. Claims 30-33 depend from independent claim 23, which as established above, is patentable over Hutchins. There is also no teaching to combine Hutchins and Gould. Therefore claims 30-33, which add various limitations to claim 23, are not obvious; in view of Hutchins and Gould. Claims 30-33 are therefore patentable.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by

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combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, a sound card is an economical way to implement a digitizer.

13. Applicant asserts on page 7:

The Examiner also rejected claim 37 under 35 U.S.C. § 103(a) over Hutchins and Gould. This rejection is respectfully traversed. Claim 37 depends from independent claim 34, which as established above, is patentable over Hutchins. There is also no teaching to combine Hutchins and Gould. Therefore claim 37, which adds the limitation of "mapping pause in the speech to a space," is also not obvious in view of Hutchins and Gould and is therefore patentable.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, a sound card is an economical way to implement a digitizer.

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14. Applicant asserts on page 5:

Claims 40-43 were also rejected under 35 U.S.C. § 103(a) over Hutchins and Gould. This rejection is respectfully traversed. Claims 40-43 depend from independent claim 34, which as established above, is patentable over Hutchins. There is also no teaching to combine Hutchins and Gould. Therefore claims 40-43, which add various limitations to claim 34 are not obvious in view of Hutchins and Gould and are therefore patentable.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, a sound card is an economical way to implement a digitizer.

15. Applicant asserts on page 8:

Applicant respectfully submit that there is *no teaching or suggestion to combine Hutchins and Gould*. Hutchins teaches a rudimentary system that can only recognize a small set of commands for an aircraft cockpit application (col. 3, lines 4-8). Hutchins does not *recognize continuous speech but rather discrete commands*. Gould, on the other hand, teaches the recognition of continuous speech. These two systems cannot be more dis-similar. Further, Gould does not teach, "receiving a binary bit stream representation of a user's training speech comprising text of known words; mapping the received binary bit stream to the known words; storing the mapping of binary bit stream to known words in a binary-to-letter table." To the contrary, The passages in column 1 and column 5 in Gould cited by the Examiner does not describe anything related to training as claimed in claim 44. The training in Gould is a process by which a user may call up a correction window to correct an incorrectly recognized word. Gould does not disclose or claim a training process. As established above, Hutchins

operates on phonemes and connecting phonemes to form subsyllables and syllables. Hutchins therefore does not describe or suggest the limitations in claim 44. The Hutchins and Gould combination does not render claim 44 obvious and claim 44 should be allowed. (Italics added)

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Gould reference was introduced as a way to expand and update word models, a common requirement for speech recognizers. Furthermore, as argued above in ¶3, Hutchins is a *continuous* speech recognizer while Gould teaches a technique for training known words (col. 1, lines 40-45) that is not inconsistent with the teachings of Hutchins.

Conclusion

Any response to this office action should be mailed to:

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or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to:

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Arlington, VA.
Sixth Floor (Receptionist)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. V. Paul Harper whose telephone number is (703) 305-4197. The examiner can normally be reached on Monday through Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (703) 305-9645. The fax phone number for the Technology Center 2600 is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service office whose telephone number is (703) 306-0377.



VPH/vph
August 18, 2003